

REMARKS

Claims 3-20 are pending in this application. For purposes of expedition, claims 1-2 have been canceled without prejudice or disclaimer. Claims 3-20 have been newly added in accordance with current Office policy, to alternatively define Applicants' disclosed invention relative to cited prior art of record and to assist the Examiner to expedite compact prosecution of the instant application. Claims 3-20 are believed to be distinguishable over the cited prior art of record, including, for example, Asano U.S. Patent No. 5,048,933; Ogawa et al., U.S. Patent No. 4,632,514; Togashi et al., U.S. Patent No. 4,345,249; Miyadera et al., U.S. Patent No. 5,132,825; Fergason et al., U.S. Patent No. 5,532,854; and Baur et al., U.S. Patent No. 5,841,498. This is because claims 3-20 all define a liquid crystal panel which has a characteristic of spectral transmittance in the manner consistent with the Examiner's reasons for allowance issued on February 14, 2000 in connection with the parent application, Serial No. 08/740,008, now U.S. Patent No. 6,137,560.

For example, base claims 3 and 7 define a liquid crystal display apparatus comprising:

a liquid crystal panel;
a light source provided on a surface of said liquid crystal panel,
wherein said liquid crystal panel is displayed in a double
refraction mode, and has a characteristic of spectral transmittance
required to satisfy the following equation, x > y > z, when a drive
voltage is applied thereto, [in the range of a minimum voltage required
for a visual display on said liquid crystal panel to a maximum voltage,
see base claim 3] [or alternatively, from a dark state to a light state,
see base claim 7] where:

“x” equals a value of the transmittance in said liquid crystal
panel at a wavelength which corresponds to a longest wavelength in
the range of wavelengths designated for blue light illuminated from
said light source;

“y” equals a value of the transmittance in said liquid crystal

panel at a wavelength which corresponds to a maximum value of the intensity in the range of wavelengths designated for green light illuminated from said light source; and

“z” equals a value of the transmittance in said liquid crystal panel at a wavelength which corresponds to a maximum value of the intensity in the range of wavelengths designated for yellow light illuminated from said light source.

Not only both base claims 3 and 7 set forth the specific characteristic of spectral transmittance of the liquid crystal panel but also require the liquid crystal panel to operate in a double refraction mode, as described, for the Examiners' convenience, on column 1, lines 36-39; and column 2, lines 9-14 of U.S. Patent No. 6,137,560, Applicants' original disclosure, which includes both the horizontal electric field type (known as “IPS” type) and the vertically aligned type (known as “VA” type) crystal display. In addition, base claim 3 further defines the “drive voltage” in “the range of a minimum voltage required for a visual display on the liquid crystal panel to a maximum voltage” as described, for example, on column 2, lines 52-56 of U.S. Patent No. 6,137,560 (Applicants' original disclosure). Alternatively, base claim 7 further defines the “drive voltage” “from a dark state to a light state” as described, for example, on column 14, lines 33-41 of U.S. Patent No. 6,137,560 (Applicants' original disclosure). These features among others, which are **not** disclosed or suggested anywhere in the cited prior art of record, and which the Examiner has already recognized during the prosecution of parent applications, Serial No. 08/740,008, now issued as U.S. Patent No. 6,137,560 and Serial No. 09/572,375, now issued as U.S. Patent No. 6,621,538, advantageously enable the liquid crystal apparatus to suppress the color shift caused by the application of a drive voltage and to reduce the occurrence of color defects. In view of these features, Applicants

believe that base claims 3 and 7 and their respective dependent claims 4-6 and 8-10 are in condition for allowance.

Likewise, base claims 11 and 15 define an alternatively version of Applicants' base claims 3 and 7, that is, a liquid crystal display apparatus comprising:

a liquid crystal panel;
a light source provided on a surface of said liquid crystal panel,
wherein said liquid crystal panel is displayed in a double
refraction mode, and has a characteristic of spectral transmittance
required to satisfy the following equation, $x > z$, when a drive voltage is
applied thereto, [in the range of a minimum voltage required for a
visual display on said liquid crystal panel to a maximum voltage, see
base claim 11] [or alternatively, from a dark state to a light state, see
base claim 15], where:

"x" equals a value of the transmittance in said liquid crystal
panel at a wavelength which corresponds to a longest wavelength in
the range of wavelengths designated for blue light illuminated from
said light source; and

"z" equals a value of the transmittance in said liquid crystal
panel at a wavelength which corresponds to a maximum value of the
intensity in the range of wavelengths designated for yellow light
illuminated from said light source.

Alternatively, base claims 19 and 20 further define a limited version of Applicants' base claims 3 and 7, specifically to the most effective characteristics of the transmittance to suppress the color shift and/or color defects in the liquid crystal panel, as described, for example, column 6, lines 40-49 of U.S. Patent No. 6,137,560 (Applicants' original disclosure). For example, base claim 19 defines a liquid crystal display apparatus comprising:

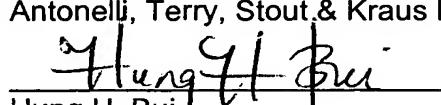
a liquid crystal panel; and
a light source provided on a surface of said liquid crystal panel,
wherein said liquid crystal panel is displayed in a double
refraction mode, and has a maximum value of spectral transmittance in
the wavelength region of 450 nm to 490 nm of light illuminated from
said light source, when a drive voltage is applied thereto, *in the range*
of a minimum voltage required for a visual display on said liquid crystal
panel to a maximum voltage.

Alternatively, base claim 20 defines a liquid crystal display apparatus comprising:

a liquid crystal panel; and
a light source provided on a surface of said liquid crystal panel,
wherein said liquid crystal panel is displayed in a double
refraction mode, and has a maximum value of spectral transmittance in
the wavelength region of 450 nm to 490 nm of light illuminated from
said light source, when a drive voltage is applied thereto, *from a dark*
state to a light state.

Again, these features of Applicants' base claims 19-20 are **not** disclosed or suggested anywhere in the cited prior art of record. Therefore, Applicants believe that all claims 3-20 are now deemed to be allowable and this application is believed to be in condition to be passed to issue. Should any questions remain unresolved, the Examiner is requested to telephone Applicants' attorney at the Washington DC area office at (703) 312-6600.

To the extent necessary, Applicants petition for an extension of time under 37 CFR §1.136. Please charge any shortage of fees due in connection with the filing of this paper, including extension of time fees, to the Deposit Account of Antonelli, Terry, Stout & Kraus, No. 01-2135 (Application No. 503.34972CX2), and please credit any excess fees to said deposit account.

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